Patent claims

1. SAW Filter,

constructed on the surface of a piezoelectric substrate

containing two electrically interconnected acoustic tracks positioned neighboring each other, in which electro acoustic transducers (W1, W2) acting as input transducer and output transducer respectively are positioned,

where a metallic shielding structure (AS) that is connected to ground is positioned between the two tracks, which shields at least two transducers positioned in different tracks against each other.

2. SAW filter in accordance with claim 1,

where the two transducers (W1, W2) shielded against each other each have one bus bar facing the shielding structure (AS), and where at least one of these bus bars is floating or connected to a voltage that is different from ground.

3. SAW filter in accordance with claim 1 or 2,

- designed as DMS filter

- with a first transducer serving as input transducer (W1) and a first coupling transducer (K1) in the first track

- with a second coupling transducer (K2) and second transducer serving as output transducer (W2) in the second track

- with a coupling line electrically connecting one bus bar of the first and second coupling transducers, respectively

- where the shielding structure (AS) is positioned between the first and the second transducer.

4. SAW filter in accordance with claim 3,

where the coupling line (KL) in each track is connected to that bus bar of the corresponding coupling transducer (K1, K2), respectively, which is farther away from the other track.

5. SAW filter in accordance with claim 4,

where the acoustic tracks are bordered by two reflectors (R, R'), respectively,

where the coupling line (KL) is routed around the reflectors outside the acoustic tracks.

6. SAW filter in accordance with one of the claims 3 to 5,

where the shielding structure (AS) is connected to an external ground and to the bus bar of one of the coupling transducers (K1, K2) respectively, which is not connected to the coupling line (KL).

7. SAW filter in accordance with one of the claims 1 to 6,

where the acoustic tracks are bordered by two reflectors (R) respectively,

Where the shielding structure (AS) is connected to an external ground and to the reflectors.

8. SAW filter in accordance with one of the claims 3 to 7,

where in the first and the second transducer (W1, W2) the bus bar that is further away from the neighboring track in each case is divided into two sub-bars, which means that each sub-bar of the first transducer (W1) is connected to one of the external terminals of the input (IN) and each sub-bar of the second transducer (W2) is connected to one of the external terminals of the output (OUT), and

where the first and second transducers (W1, W2) serving as input transducer and output transducer are assigned to a corresponding symmetrical input or output (IN, OUT).

9. SAW filter in accordance with one of the claims 1 to 8,

where the transducers (W1, W2) and shielding structure (AS) are made up of the same metal plating.

10. SAW filter in accordance with one of the claims 1 to 9, where the metal plating of the transducers (W1, W2) and the shielding structure (AS) have a layer of aluminum or an alloy containing aluminum, or a multiple-layer composition which contains at least one layer of aluminum or of an aluminum alloy.

11. SAW filter in accordance with one of the claims 1 to 10, where the substrate is mounted on a carrier in a flip-chip arrangement, and where an electricity conducting connection is performed between a connecting surface positioned on the carrier and the shielding structure (AS) with one or more bumps.

12. SAW filter in accordance with one of the claims 1 to 11, where the shielding structure (AS) extends at least along the entire length of the two transducers (W1, W2) to be shielded against each other.

13. SAW filter in accordance with one of the claims 1 to 12, where the shielding structure (AS) has a width which is noticeably larger than the bus bars of the first and second transducer (W1, W2) that face each other.